



President's Message

by Tom Kinahan, N1CPE

I hope you enjoyed your summer. We're starting off another fast paced club year in the Wellesley Amateur Radio Society with a few big ones right off the bat. First the September VHF contest scheduled for the 13th and 14th of September and the W.A.R.S. Flea Market at the High School on the 28th.

We've certainly not been idle over the summer, check out articles elsewhere in this issue on Field Day, the June VHF contest, the Tinman Triathlon. We've done planning for the upcoming club year, work on the repeater system at the Newton - Wellesley Hospital, and added a new and enthusiastic control operator for the repeater, Paul Davis, N1EGC. Work continues on installing the W.A.R.S. 440 MHz repeater on 444.6 in / 449.6 out and linking it to the 2 meter

repeater.

We've found a new editor for the Spark Gap starting this month. Jon Freeman, KA1NDX, is our new editor. Please send him articles and information that you would like to see in the Spark Gap. Thanks, Jon.

With that I'll leave you to read the rest of this issue.

June VHF Contest

The Wellesley A.R.S. again took the trip to Mt. Equinox in Vermont for the June VHF Contest this year. The contest operation was highly successful but more rewarding than usual. After we got Six meters, Two meters, 220 MHz and 432 MHz set up in time to begin the contest at 2 pm, we started plugging away at the grid squares and the contacts. Six meters was the best band going. Soon we got the microwave bands of 903 MHz and 1296 MHz operating and we were in the thick of it. By early evening on Saturday, we realized that there was some pretty nice E skip on 6 meters rolling in. For a few moments, when the VE1's were starting to boom in, we were expecting some European stations, but they never materialized. We managed to work as far south as the Florida Keys and as far west as Spokane, Washington and Boise, Idaho. Six meters was open the entire contest. One operator who will remain nameless made the comment that we must have worked everyone that owns a 6 meter rig! The other bands were about the same as

MEETINGS THIS MONTH:

September 4, 1986 at 7:30 P.M.
September 18, 1986 at 7:30 P.M.
211 Washington St., Wellesley

usual.

Constant amplifier meltdowns on 6 and 2 proved to be an annoyance. It seems that being 3800 ft above sea level and as few as 75 watts on 6 and 150 watts on 2 was enough to be heard. But boy did we wish we had the kilowatts working again.

Mr. Barbo's grave was visited, Dr. Rudd at the Equinox Sky Line Inn was very nice and gave us a break on room rates, we checked out the coverage the 2 new repeaters up on Equinox on 2m and 440 MHz (unbelievable!) and took a listen to WEQX the voice of Equinox mountain.

We added a new band this June, 903 MHz. We managed to find 8 other stations on that band and we worked them. The farthest away being K3YTL in Pennsylvania for 188 miles.

The operators of this June's effort were : Arnie Adelman, W1GCI; Vern Valero, ND1Z; Ged Weare, G3VVH; Barry, N2BJ; C.J. MacDonald, WB1BUM; Art Holmes, WA2TIF; Jeff Klein, WA2TEO; Dave Curry, K1TK; and Tom Kinahan, N1CPE.

Thanks are due to Arnie Adelman for the effort involved in getting all the radios and amplifiers together for the contest. The contest results are listed below.

Band	QSO's	Grids
50 Mhz	456	140
144 Mhz	453	49
220 Mhz	74	27
432 Mhz	162	35
902 Mhz	8	6
1296 Mhz	33	15
10 Ghz	3	2
Total	1189	274
	Points	414,562

June VHF Contest Results

ARRL Membership ?

Whenever you renew your ARRL membership be sure to do it through the club. To do this send your completed membership form to the Wellesley ARS at the club address or bring it to the next meeting and make your check out payable to the Wellesley Amateur Radio Society. We will then make sure that the League gets your application and dues. This way the club can make \$2.00 from every member that renews.

New Tickets

Jim Charboneau	KA1OJA	to Technician
Paul Davis	N1EGC	to Technician
Val Descamps		to Technician
Bill Furbish	N1EHM	to Technician
Frank Mackenzie-Lamb	NG1I	to Extra
Lou Morotta	N1EHI	to Technician
Mike Shaffer		to Technician
Phil Warbasse	KA1OJI	to General
Stan Waugh	N1EHG	to Technician
Ged Weare	NF1Z	to Extra
Dwight Williams	KA1KKS	to Advanced
Virginia Williams	KA1KKT	to General

Note that NF1Z 'did it all' in one night. Ged had a British license (G3VVH) and passed the Novice, General, Advanced and Extra exams all in one session!

Calendar

- September 13 & 14 : VHF Contest
- September 28 : W.A.R.S. Flea Market
- October 6 : W.A.R.S. Advanced Class begins
- October 18 - 19 : New England ARRL Convention, Boxboro, Ma.

The Spark Gap

Official Journal of the Wellesley Amateur Radio Society



EDITOR-IN-CHIEF: Jon Freeman
95 Audubon Rd., #602
Wakefield, Ma. 01880
246-0981

THE "SPARK GAP" IS A MONTHLY PUBLICATION OF THE WELLESLEY AMATEUR RADIO SOCIETY. ITS PRIMARY PURPOSE IS TO KEEP ITS MEMBERS ABEAST OF CURRENT HAPPENINGS, F.C.C. RULES & REGULATIONS CHANGES, AND TO LIST EQUIPMENT OFFERED FOR SALE OR TRADE BY MEMBERS. MEMBERS ARE ENCOURAGED TO CONTRIBUTE TO THE "SPARK GAP" AND MAY SENT THEIR ARTICLES (TYPEWRITTEN IF POSSIBLE) TO THE EDITOR-IN-CHIEF OR TO THE CLUB ADDRESS.

THE WELLESLEY AMATEUR RADIO SOCIETY IS A NON-PROFIT ORGANIZATION DEDICATED TO THE PROMOTION OF AMATEUR RADIO THROUGH INSTRUCTION, FELLOWSHIP, DEMONSTRATION, AND ENCOURAGEMENT OF PARTICIPATION. ANNUAL MEMBERSHIP IN THE SOCIETY IS \$8. THE CLUB YEAR RUNS SEPTEMBER 1 TO AUGUST 31. AMATEUR NOVICE AND GENERAL CLASSES ARE CONDUCTED REGULARLY AT NO COST. TO ENROLL IN A CLASS, OR GAIN INFORMATION ABOUT THE SOCIETY IN GENERAL, WRITE:

The Wellesley Amateur Radio Society
211 Washington Street
Wellesley Hills, Ma. 02181



Exam Opportunities

The following FCC exam opportunities exist for this Autumn. In general you will need to bring a completed Form 610, your original FCC license, a copy of your license, the \$ 4.25 exam fee, some pencils, a picture ID, and a winning attitude. Check with the contact person as soon as possible.

Contact Vern, ND1Z if you need a form 610 or know of someone who is interested in taking only the Novice exam.

Date	Place	Contact
9/17	MIT, 77 Mass Ave Cambridge	Ron Hoffman WA2EYC 253-0160
10/17-19	Rm 1-134, 7 PM Sheraton Hotel Boxboro (off I-495)	Alan Kline KB1DJ 595-0573
10/22	MIT, Cambridge	Ron Hoffman 253-0160
11/19	MIT, Cambridge	Ron Hoffman 253-0160
12/17	MIT, Cambridge	Ron Hoffman 253-0160
12/20	Wellesley Red Cross Wellesley, MA	Vern Valero ND1Z 533-6822

N.E. Tinman Triathlon

On July 13th, the Wellesley Amateur Radio Society coordinated the health and welfare communications of the New England Tinman Triathlon. The race, which started in Wellesley at Moses Pond with a 1.2 mile swim, was followed by a 56 mile bike course through Wellesley, Weston, Natick, Wayland, Lincoln, Sudbury, Maynard, Hudson and Stow. Upon return

OFFICERS

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to the Wellesley High School, contestants started out on the last leg, a 13.1 mile run within the boundaries of Wellesley, Dover and Needham. Due to the immense area of the course, we had the use of the Maynard repeater on 147.12 MHz as well as our 147.03 repeater which worked out quite well. The cool and rainy weather proved to help many of the competitors that might have competed in 100 degree heat this time of year.

Fortunately, only 1 person required medical assistance and was taken to the Newton - Wellesley Hospital with knee difficulties.

Assisting in the Triathlon this year were : Gary Weissel, KA1JWE; Kevin Kelly, WA1YHV; Bill Furbish, KA1OID; Louis Marrotta, KA1JHS; Marcia Osbourne, KW1U; Ron Reder, KA1KCU; Mort Cohan, KA1IU; Phil , KA2QIK; Larry LeBlanc, WA1MWF; Ged Weare, G3VVH; Paul Monroe, KA1LDV; Allan Bacon, K1BA; Jon Freeman, KA1NDX; and Tom Kinahan, N1CPE.

ADVANCED CLASS

WARS is sponsoring an Advanced upgrade class this Autumn. This promises to be an exciting class of many firsts. Please join the fun and either become a student or volunteer to teach a night.

The class will consist of the theory and regulations required to pass the Advanced exam. It is open to all General or Technician license holders. There will be mandatory Morse Code practice for the Technicians and optional practice for the Generals. Code practice will begin at 10 WPM and progress to 20 WPM. Who knows, everyone may just walk away from the exam with a 20 WPM certificate.

How does the Advanced theory differ from

the General theory? It is not necessarily more difficult to understand. Topics are covered in more detail and with more thought. To a large extent one walks away from the Advanced study with a deeper understanding of the General theory. You start to understand WHY things are the way they are. Please join the class if you would like to upgrade and expand your understanding of the theory.

Fortunately we have a "smart" club. Many members have favorite technical topics that they understand well and have thought about for some time. Please share your knowledge with the class by volunteering to teach a night of the Advanced Class. It is great fun and you will make some new friends in the process!

We are tentatively scheduling an FCC exam to coincide with the end of the Advanced class. This will enable our students to upgrade quickly. This arrangement worked out quite well with the General class and we would like to repeat that success. Dan Brevik and Thomas Burton deserve a round of applause for their hard work and savoir faire in handling last June's FCC exam. Dan, the Exam Liason, deserves special thanks for all the personal time and expense involved in making the exam a very professional event.

The Advanced Class will be videotaped in its entirety. This new concept will enable members to upgrade at any time and is particularly useful for those who can not attend the classes. Currently we have one individual who is willing to be 'camera man'. We are looking for one or more others with a VHS format camera to help share the workload. Please let us know if you can help videotape some of the classes.

Please contact me if you are interested in taking, teaching, or shooting (video, of course) the

class. Below is the schedule:

Advanced Class Schedule

- OCT 6 OPERATIONS & RULES/REGS:
Fax, SSTV, Auxiliary Operation
- 13 HOLIDAY
- 20 PROPAGATION:
Es, Fading, Aurora, Path Horizon
- 27 PRACTICE:
Marker Generator, Freq Ctr, Scope,
Dip, Intermod
- NOV 3 PRINCIPLES I:
Energy, Phase Angle, Resonance, Q
- 10 PRINCIPLES II:
Reactive Power, ERP, Thevinins Theorem
- 17 COMPONENTS:
Diodes, Transistors, LEDs, Neon Lamps,
Filters
- 24 CIRCUITS I:
Voltage Regulators, Modulators,
Detectors
- DEC 1 CIRCUITS II:
Amplifiers, Oscillators, Filters
- 8 EMISSIONS:
WARC Designators, AM, FM, SSB,
Polarization, SNR
- 15 ANTENNAS:
Velocity Factor, Radiation Resistance,
Beamwidth, ...

ADVANCED CLASS:

DATES: OCT 6 thru DEC 15, Monday nites
TIME: 7 PM to 9 PM (Code practice at 6:30 PM)
PLACE: Wellesley Red Cross Building
PREREQUISITE: Hold General or Technician ticket
TEXT: ARRL 1986/1987 Advanced License Manual
REGISTER: call Vern, ND1Z by Sept 22

Vern Valero

WARS Education Chairman

533-8822

Used Bird

from The Westlink Report 8/8/86

A satellite that for 15 years has seen altitudes no higher than the ceiling of the National Air and Space Museum is finally getting a chance to fly in space.

OSCAR 17 (not one of the ham radio OSCARs

but an old Navy satellite that has never flown) will be used by the Air Force for communications experiments.

In return for handing over the exhibit, the museum received an earlier version, one believed to be more important historically. In the swap, the NASM obtained a Transit 5 - A, the bird that gave the Navy its first navigational satellites.

The 270 pound satellite, renamed "Polar Bear," will be used for studying auroral interference. It will be launched October 8 from Vandenberg in California. Reusing the old OSCAR-17 will save the taxpayers more than \$2 million.

Hamnews

from The Westlink Report 8/8/86

Listen for the strange sounding callsign 6K86AG from South Korea during all of August and September. This is a special commemorative station to celebrate the Asian Games. Also remember that if you plan to go to Korea for this event (or any others), leave your ham gear at home — it will not be permitted into the country.

W.A.R.S. Fleamarket

The Wellesley A.R.S. fleamarket will be held this month at the Wellesley High School at 9:00 A.M. on Sunday September 28th. Talk in on 147.63/03. Take Rte. 16 west from Rte. 9 and take a left onto Rice Rd. The high school is on your left.

New Editor

Be sure to note that there has been an editor change and that the address for sending mail to the Spark Gap has changed as well. Below is the address for corresponding with the journal.

Articles, items of interest, as well as any new ideas or suggestions are solicited.

Jon Freeman, KA1NDX
95 Audubon Rd., #602
Wakefield, Mo. 61880
Telephone 617-246-0981

Novice Exam Kit

How many WARS members have administered a Novice exam? I gave my first Novice exams to the students of the last Novice class with the help of WA1HRV and K1UR's computer generated exam sheets. What a relief it was to have all the details taken care of!

We have gone one step further. Over the summer we have updated K1UR's Novice question pool files and packaged all the necessary materials into an 'Exam Kit'. The kit consists of the following:

- Complete and detailed instructions
- A blank Form 610
- A copy of a completed 610 to use as an example
- A sheet for the candidate to copy code onto
- An element 1A 5 WPM code exam tape
- A list of questions for the 5 WPM code test
- A list of the correct answers to the questions
- A copy of the text that was transmitted
- A computer-generated Element 2 (Novice theory) question sheet
- A list of the answers for the theory exam

It's really quite simple to use. Follow the instructions and administer the exam. Place all the

exam materials back into the envelope, seal it, and retain it for a year. Ensure that the completed Form 610 is mailed to Gettysburg within ten days. And, of course, return the code tape to us as soon as possible.

The kit should enable all WARS members holding General or higher tickets to easily administer Novice exams to friends and neighbors (but not relatives). If you have been considering helping someone become a Novice, please request an exam kit envelope and give it a try. You can do your part to help the hobby grow!

Got any space ?

Shortly before the June VHF contest, we were notified that the Fire Station in Wellesley Hills at the intersection of route 9 and 16 was being demolished to make room for a new Fire Station. This is only important to us because we have kept all of our heavy equipment at this location for some time now. We scrambled and found a temporary home in the Red Cross garage for this equipment. But this is a temporary solution. We need to find a place to store the generator (it's on a trailer), the tower sections (150 feet worth), lots of antennas of the HF, VHF, and UHF variety, large 'increment' boxes that contain guy wires, come alongs and coax. The Town officials have informed us that there will not be space in the new station for this equipment. Help us out. Do you know of a place in Wellesley where we can store this equipment on a somewhat permanent basis? Contact Tom Kinahan with ideas.

Radio Links For Computers

from The ARRL Letter 5/9/86

The PCC, based on a petition from Motorola, Inc., has proposed that personal computers and

desk top terminals could communicate via radio links, thus eliminating the need for cables. Such a plan would allow immediate relocation of a computer terminal within an office without the expensive process of rewiring it to other terminals. The commission estimated it costs a business over \$1000 to move a computer terminal from one spot to another in an office due to cable re-routing. The power would be 100 milliwatts (one tenth of a watt) and would have a range of about 500 feet, on frequencies near 70 Mhz.

Field Day

Field Day was held this June at the rear of the Sprague School, by the athletic fields. The W.A.R.S. setup was accomplished in less than record time but we were able to have 2 stations on the air at the start of the contest at 2pm. The club tribander was put on a few tower sections and lashed to the baseball diamonds backstop and a suitable 75 meter dipole was lashed between the same backstop and some nearby football goalposts.

The generator was fresh and ready to go with a fresh change of oil and we were off and contesting. Just before the W.A.R.S. family cookout at 6pm we got the Packet station going and put up the club 40m wire beam as an inverted Vee.

Through the night, W1TKZ was operating with only a few minor catastrophes. The automatic sprinkler system in the athletic fields was doing its job and watering the spacious lawns. We were wondering when we might get wet when one of the sprinklers near our tents was going to turn on. One W.A.R.S. member had the misfortune of running out of gas on his way home late Saturday night. A daring midnight

rescue was forged with the use of the W.A.R.S. 2 meter repeater.

Praise is due to Bill Hanlon, N1ADY for the Excellent job he did in organizing Field Day this year. It wasn't easy. We change sites 2 weeks before the test and Bill managed to keep on top of things to make sure nothing was forgotten. Thanks, Bill.

The participants in this years Wellesley Amateur Radio Society's Field day were : Nels Anderson, K1UR; Bill Hanlon, N1ADY; Liz Valero; Vern Valero, ND1Z; Dick Weissel, WA1HRV; Mike Weissel, KA1IKW; Gary Weissel, KA1JWE; Larry LeBlanc, WA1MWF; Mort Cohan, KA1IU; C.J. MacDonald, WB1BUM; Dan Brevik, KZ1D; Thomas Burton, KX1H; Ken McNair, N1DEZ; Bob Drapeau, KT1K; Frank MacKenzie, N1EFA; KA1OIH; KA1OJI; Bill Furbish, KA1OID; WA1EVD; Tom Kinahan, N1CPE.

Band	QSO's
80 cw	15
40 cw	42
75 ssb	109
40 ssb	28
20 ssb	65
15 ssb	3
2 fm solar	5
Packet	5
Total	272

Special Event

For the first meeting of the year, we'll vote on budgets for the upcoming year and show videotapes of our June contest efforts. The June VHF contest effort from Mt. Equinox in Vermont and Field Day from the Sprague School are the feature events.

The Spark Gap



**WELLESLEY
AMATEUR RADIO
SOCIETY**

211 Washington Street
Wellesley, Massachusetts 02181



FIRST CLASS MAIL